

1 Introduction

1.1 Terms of Reference (ToR)

1.1.1 Specific ToR

2020/2/FRSG05 **The North-Western Working Group** (NWWG), chaired by Teunis Jansen, Iceland, will meet by correspondence on 22–29 April 2021 to:

- a) Address generic ToRs for Regional and Species Working Groups for all stocks, except stocks mentioned in ToRs c) and d)
- b) Compile and review available data and information on plaice in Division 5.a and prepare a road map and issue list for a future benchmark

and on 6-8 September 2021 to:

- c) Address generic ToRs for Regional and Species Working Groups for beaked redfish (*Sebastes mentella*) in ICES subareas 5, 12, and 14 (Iceland and Faroe grounds, North of Azores, East of Greenland) and NAFO subareas 1 and 2 deep pelagic (> 500m) and shallow pelagic (< 500m) stocks.

and on 25-29 October to:

- d) Address generic ToRs for Regional and Species Working Groups for Capelin (*Mallotus villosus*) in subareas 5 and 14 and Division 2.a west of 5°W, Cod (*Gadus morhua*) in Subdivision 5.b.1 (Faroe Plateau), Cod in Subdivision 5.b.2 (Faroe Bank,) Haddock (*Melanogrammus aeglefinus*) in Division 5.b (Faroes grounds) and Saithe (*Pollachius virens*) in Division 5.b (Faroes grounds).

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group on the dates specified in the 2021 ICES data call.

NWWG will report by 19 May, 10 September and 5 November 2021 for the attention of ACOM.

Only experts appointed by national Delegates or appointed in consultation with the national Delegates of the expert's country can attend this Expert Group

1.2 NWWG 2021 work in relation to the generic ToR

Because of the disruptions caused by COVID 19 in 2021 the meeting in April was held remotely.

For all stocks discussed during the meeting, the NWWG adopted the assessment which formed the basis for stock status and the premise for the forecasts. Based on the assessments the group produced a draft advice (abbreviated form) for all stocks.

European plaice around Iceland is a new stock in NWWG. The data and assessment was presented as well as the plans for a benchmark and management plan evaluation. This work was described in the report. No advice was drafted.

The fisheries overview for the Icelandic Ecoregion was published in 2019. Ecosystem overview for Greenland and Fisheries Overview for the Greenland and Faroese were published in 2020.

1.3 Mohn's Rho

Generic Term of Reference c)-viii).

Mean Mohn's Rho for category 1 stocks for F_{BAR} , spawning-stock biomass (SSB) and Recruitment for the stocks discussed so far during the this years' meetings. The plots are shown in relevant chapters.

Stock	Code	Term. year	Retro years	F_{bar}	SSB	Recr
Inshore West Greenland cod	cod.21.1	2020	5	0.027	-0.217	-0.54
East Greenland, South Greenland cod	cod.2127.1f14	2020	5	0.416	-0.214	-0.486
Icelandic Saithe	pok.27.5a	2020	5	-0.084	0.101	-0.074
Icelandic cod	Cod.27.5a	2020	5	0.035	-0.021	0.074
Icelandic haddock	had.27.5a	2020	5		-0.065	0.035
Greenland halibut	ghl.27.561214	2019	5	0.030	0.043	-
Golden redfish	reg.27.561214	2021	5	-0.0533	0.0352	0.501

1.4 NWWG 2021 work in relation to the specific ToR

The group will meet three times in 2021 (see ToR). The report will be updated with the respective stocks after each meeting.

1.5 Assessment methods applied to NWWG stocks

The methods applied to assess the stock status of the NWWG stocks covers a wide range from descriptive to age based analytical assessments as follows:

Stock	Assessment model	Input*	Advice
Faroe Bank cod	Qualitative evaluation	Survey	November 2021
Faroe Plateau cod	SAM	Survey	November 2021
Faroe haddock	SAM	Survey	November 2021
Faroe saithe	SAM	CPUE	November 2021
Iceland saithe	ADCAM (statistical catch-at-age)	Survey	June 2021
Iceland cod	ADCAM (statistical catch-at-age)	Survey	June 2021
Iceland haddock	Adapt type model	Survey	June 2021
Iceland herring	NFT-Adapt	Survey	June 2021
Capelin	Linear regression	Survey	November 2021
Inshore West Greenland cod	SAM	Survey	June 2021
East and South Greenland cod	SAM	Survey	June 2021
Offshore West Greenland cod	Descriptive	Survey	June 2021
Greenland halibut	Stock production model (Bayesian)	Survey + CPUE	June 2021

Stock	Assessment model	Input*	Advice
Golden redfish	GADGET (age-length based cohort model)	Survey	June 2021
Iceland slope <i>S. mentella</i>	DLS category 3.2	Survey	June 2021
Deep pelagic <i>S. mentella</i>	Gadget	Survey	September 2021
Shallow pelagic <i>S. mentella</i>	Qualitative evaluation	Survey	September 2021
Greenland Slope <i>S. mentella</i>	DLS category 3.2	Survey	June 2021

* Landings or landings by age are input to all assessments

1.6 Audits

All audits were completed. The auditors found the work of the assessment and advice satisfactory.

1.7 Recommendations

There were no recommendations to NWWG this year.

1.8 Benchmarks and workshops

Icelandic slope beaked redfish will be benchmarked in early 2022. The aim of the benchmark is to apply an analytical assessment model (Gadget) and move the stock from category 3 to category 1. Furthermore, the aim is to define reference points for the stock. Issue list has been prepared.

Benchmark of golden redfish, deep pelagic beaked redfish and Greenlandic demersal beaked redfish is recommended for benchmark in 2023.

The group recommends that East Greenland, inshore and offshore West Greenland cod stocks to be benchmarked in 2023 instead of 2022 as earlier suggested. A substantial issue lists has been prepared and work has been initiated. Main pillars of the work are expected to be presented for discussion at NWWG 2022.

The group still recommends that capelin should be benchmarked as planned at WKCAPELIN in 2022.

Furthermore, the group is aware of plans for submitting requests for intermediate benchmarks or similar evaluations of Icelandic plaice and the Faroese stocks (intermediate catch estimation and management plans).

1.9 Chair

This was first of three years for the new Chair, Teunis Jansen, Greenland/Denmark.